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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,089	08/14/2001	Tam Wee Sin	10961-0003	8906

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JONES DAY
222 EAST 41ST ST
NEW YORK, NY 10017

EXAMINER	
PHAN, TRI H	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/929,089	SIN ET AL.	
	Examiner	Art Unit	
	Tri H. Phan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *36* is/are allowed.

6)☒ Claim(s) *1-5,8 and 11* is/are rejected.

7)☒ Claim(s) *6,7,9,10 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Response/Amendment filed on September 11th, 2006. Claims 13-35 are now canceled. Claims 1-12 and 36 are now pending in the application.

Drawings

2. The drawings were received on September 11, 2006. These drawings are acceptable.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schuster et al.** (U.S.6,175,871; hereinafter refer as '**Schuster**') in view of **Qarni et al.** (U.S.6,438,105; hereinafter refer as '**Qarni**').

- In regard to claim 1, **Schuster** discloses, a system and method for audio transmission over a network (For example see figures 1-2; col.1, lines 17-19) *comprising setting audio frames in packets* (for example see figure 3; wherein the telephone call signal is converted into frames,

e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52); *and overlapping the audio frames by at least one for each packet* (for example see figure 4; wherein redundant packet contains the current frame and previous frames, e.g. "*the overlapping audio frames*", as disclosed in col. 14, lines 21-40). **Schuster** does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the system and method for transmitting redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module implementing in the gateway (for example see figure 1; col. 4, lines 17-20, 31-35).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

- Regarding claims 2-3, **Schuster** discloses, a system and method for audio transmission over a network (For example see figures 1-2; col.1, lines 17-19) *comprising setting audio frames in packets* (for example see figure 3; wherein the telephone call signal is converted into frames, e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52); *and overlapping the audio frames by at least one for each packet* (for example see figure 4; wherein redundant packet contains the current frame and previous frames, e.g. "*the overlapping audio frames*", as disclosed in col. 14, lines 21-40); *wherein there are two audio frames and one overlapped audio frames for each packet* or *two audio frames and two overlapped audio frames for each UDP packet* (for example see figure 4; wherein the number of redundant frames in the packet, e.g. "*overlapped audio frames*", is depending on the Redundancy variable as disclosed in col. 14, lines 21-25; thus, it is obvious the setting number of frames and redundant frames in the packet, e.g. Redundancy variable, is system engineering choices for fixing or varying). **Schuster** does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the system and method for transmitting redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module implementing in the gateway (for example see figure 1; col. 4, lines 17-20, 31-35).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

- In regard to claim 4, **Schuster** further discloses, *wherein the audio frames are overlapped in response to a detection of high packet loss* (for example see col. 8, lines 56-64; col. 14, lines 21-40; wherein the telephone call signal is converted into frames, e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52).

- Regarding claim 5, **Schuster** further discloses, *wherein the extent of overlap is selected based on the extent of the packet loss* (for example see col. 4, lines 5-9; where the dynamic network characteristics are varying by packet loss and delay as disclosed in col. 2, lines 40-43; and wherein the Redundancy variable determines the number of redundant frames in the packet

based on the frames lost during transportation, e.g. "*extent of overlap is selected based on the extent of the packet loss*").

- In regard to claims 8 and 11, **Schuster** further discloses, *wherein the transmission from an originating gateway is in a non-overlapped audio format* (for example see figure 2; wherein frames 85, e.g. "*non-overlapped audio format*", are encoded by the encoder 80 of the sender, e.g. "*originating gateway*", as disclosed in col. 7, line 64 through col. 8, line 3) *and is to an originating audio converter to convert the transmission to overlapped format* (for example see figure 2; wherein the packetizer 90, e.g. "*originating audio converter*", packets the frames 85 into data packets 95 with redundant frames for transporting over the network, e.g. "*convert the transmission to overlapped format*", as disclosed in col. 8, lines 56-67)*; the originating audio converter being close to the originating gateway* or *wherein the originating audio converter is in the same network as the originating gateway* (for example see figure 2; wherein the packetizer 90, e.g. "*originating audio converter*", is within the sender, e.g. "*being close to the originating gateway*" or "*in the same network as the originating gateway*").

Response to Amendment/Arguments

5. Applicant's arguments filed on September 11th, 2006 have been fully considered but they are not persuasive.

Regarding claim 1, in the REMARKS, pages 6-9, Applicant mainly argues that the combination of **Schuster** and **Qarni** fails to disclose "... *overlapping the audio frames by at*

least one for each UDP packet." and there is no suggestion to combine the references. Examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, **Schuster** discloses method and apparatus for communicating real time media (RTP protocol; see figure 3) over packet networks (Internet; see figure 1) by selecting utility parameters and adjusting variables in according with the dynamic characteristic such as packet delay and packet loss of transportation network (see figure 2; col. 2, lines 46-59; col. 10, lines 12-20) through the use of redundancy (see figure 4). **Qarni** discloses system and method for reliable transmission of real time media such as facsimile data, voice, multimedia (see col. 2, lines 14-22; col. 4, lines 17-19) over packet networks (Internet 22 in figure 1) by providing the new protocol (User Datagram Protocol Extension 'UDPX') and implementing the dynamic redundancy window to control the number of redundant packets transmitting over the packet network (see figure 6; col. 2, lines 29-65). Both **Schuster** and **Qarni** provide redundant method for improving the transmission multimedia over packet network in reliable fashion. Thus, the reason for combining are to come from the references used in the rejection of the claimed invention and in some cases from knowledge of one of ordinary skill in the art, according to current practice, is proper. See MPEP § 2143.01.

In response to Applicant's argument that the combination of **Schuster** and **Qarni** fails to show "... *overlapping the audio frames by at least one for each UDP packet.*". Examiner respectfully disagrees. In this case, **Schuster** does disclose method and apparatus for communicating real time media by using real time transport protocol 'RTP' or other transport protocol over Internet; but fails to explicitly disclose about using user datagram protocol 'UDP'. However, it is obvious RTP layer is above the UDP/IP layer in the protocol stack RTP/IP/UDP, for transmission real-time traffic over Internet. **Qarni** discloses system and method for transmission of real time media by using UDP over Internet. Both **Schuster** and **Qarni** provide redundant method for improving the transmission multimedia over packet network in reliable fashion (wherein, frames such as n-1, n, n+1; n+2, etc. are "*overlapping*" by at least one for packets 192, 194, 196, etc. as disclosed in **Schuster**: figure 4; col. 14, lines 26-40; or in UDP packets as disclosed in **Qarni**: figure 6), e.g. "... *overlapping the audio frames by at least one for each UDP packet.*".

Applicant further asserts that "***Qarni*** *teaches away from having frames overlap by at least one for each UDP packet, ...*", since "... *In particular, the protocol described in* ***Qarni*** *involves dynamically varying the number of redundant packets which are transmitted in each frame by reference to the extent of 'choppy behavior' detected in the network. Clearly, in some instances, there will be no redundancy packets transmitted, i.e. No 'overlap' in frames as stated at col. 2 lines 62-65...*". However, the protocol described in **Qarni**, e.g. UDPX, is implementing in the dynamic redundancy window that controls the number of redundant packets transmitted on whether the network exhibits choppy behavior (see col. 2, lines 30-65). Thus, it does not exclude situation where the redundant packets overlap in each UDP frame, e.g. "frames overlap by at

least one for each UDP packet", as disclosed in figure 6 of **Qarni;** where the redundant packet seq.#1 is "overlapping" in each UDP frame 80, 82, 84 as disclosed in col. 8, line 36 through col. 9, line 17. It is also obvious that, choosing fixed or dynamic size for the redundancy window is just system-designed choices. **Schuster** also discloses method and apparatus for communicating real time media (RTP protocol) over Internet through the use of redundant method (see figure 4; where RTP layer is above the UDP/IP layer in the protocol stack RTP/IP/UDP for transmission real-time traffic over Internet).

Therefore, Examiner concludes that the combination of **Schuster** and **Qarni** teaches the arguable features.

Claims 2-5, 8 and 11 are rejected as in Part 4 above of this Office action and by virtue of their dependence from claim 1.

Allowable Subject Matter

6. Claim 6-7, 9-10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 36 is allowed as indicated in the previous Office action sent on June 9, 2006.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rosenberg, Jonathan David (U.S.6,304,567), **Subbiah et al.** (U.S.6,366,961) and **Hoshi et al.** (Voice Stream Multiplexing between IP Telephony Gateways, April 1999, IEICE

Trans. Inf. & Syst., Vol. E82-D, No. 4, pages 838-845) are all cited to show devices and methods for improving voice communications through packet network in the telecommunication architectures, which are considered pertinent to the claimed invention.

8. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tri H. Phan
November 20, 2006

CHI PHAM
SUPERVISORY PATENT EXAMINER
11/21/06